

Connecting via Winsock to STN

FILE 'HOME' ENTERED AT 08:21:01 ON 17 FEB 2004

=> file caplus	SINCE FILE ENTRY	TOTAL SESSION
COST IN U.S. DOLLARS	0.21	0.21

FULL ESTIMATED COST

Welcome to STN International! Enter xx:
 LOGINID:66spatl623zct
 PASSWORD:
 TERMINAL (ENTER 1, 2, 3, OR ?):2

* * * * * Welcome to STN International * * * * *

NEWS 1 Web Page URLs for STN Seminar Schedule - N. America
 NEWS 2 "Ask CAS" for self-help around the clock
 NEWS 3 SEP 09 CA/Capplus records now contain indexing from 1907 to the present
 NEWS 4 DEC 08 IMPAC: Legal status data reloaded
 NEWS 5 SEP 29 MSDSs now available on STN
 NEWS 6 OCT 10 PCTFLN: Two new display fields added
 NEWS 7 OCT 21 BIOSIS file reloaded and enhanced
 NEWS 8 OCT 22 BIOSIS file segment of TOXCENTER reloaded and enhanced
 NEWS 9 NOV 24 MSDS-COMS file reloaded
 NEWS 10 DEC 08 CARA reloaded with left truncation
 NEWS 11 DEC 08 IMS file names changed
 NEWS 12 DEC 09 Experimental property data collected by CAS now available in REGISTRY
 NEWS 13 DEC 09 STN Entry Date available for display in REGISTRY and CA/Capplus
 NEWS 14 DEC 17 DESNE: Two new display fields added
 NEWS 15 DEC 18 BIOTECNO no longer updated
 NEWS 16 DEC 19 CROPU no longer updated; subscriber discount no longer available
 NEWS 17 DEC 22 Additional IMPI reactions and pre-1907 documents added to CAS databases
 NEWS 18 DEC 22 IFIPI/IFIUDA/IFICDB reloaded with new data and search fields
 NEWS 19 DEC 22 ABI-INFORM now available on STN
 NEWS 20 JAN 27 Source of Registration (SR) information in REGISTRY updated and searchable
 NEWS 21 JAN 27 A new search aid, the Company Name Thesaurus, available in CA/Capplus
 NEWS 22 FEB 05 German (DB) application and patent publication number format changes
 NEWS EXPRESS DECEMBER 28 CURRENT WINDOWS VERSION IS V7.00, CURRENT MACINTOSH VERSION IS V6.00(ENG) AND V6.00(JP);
 NEWS HOURS AND DISCOVER FILE IS DATED 23 SEPTEMBER 2003
 NEWS INTERSTN Operating Hours Plus Help Desk Availability
 NEWS LOGIN General Internet Information
 NEWS PHONE Welcome Banner and News Items
 NEWS WWW direct dial and telecommunication Network access to STN
 NEWS WWW CAS World Wide Web Site (general information)
 NEWS WWW Enter NEWS followed by the item number or name to see news on that specific topic.

All use of STN is subject to the provisions of the STN Customer Agreement. Please note that this agreement limits use to scientific research. Use for software development or design or implementation of commercial gateways or other similar uses is prohibited and may result in loss of user privileges and other penalties.

* * * * * STN Columbus * * * * *

FILE 'REGISTRY' ENTERED AT 08:21:23 ON 17 FEB 2004
 USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
 PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
 COPYRIGHT (C) 2004 American Chemical Society (ACS)

=> file reg	SINCE FILE ENTRY	TOTAL SESSION
COST IN U.S. DOLLARS	0.44	0.65

FULL ESTIMATED COST

FILE 'REGISTRY' ENTERED AT 08:21:23 ON 17 FEB 2004
 USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
 PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
 COPYRIGHT (C) 2004 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file provided by Infochem.
 STRUCTURE FILE UPDATES: 16 FEB 2004 HIGHEST RN 651003-77-9
 DICTIONARY FILE UPDATES: 16 FEB 2004 HIGHEST RN 651003-77-9
 TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2003
 Please note that search-term pricing does apply when conducting SMARTSELECT searches.
 Crossover limits have been increased. See HELP CROSSOVER for details.
 Experimental and calculated property data are now available. For more information enter HBIP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:
<http://www.cas.org/ONLINE/DATABASES/registries.html>

=> s parahydrogen/cn
 l1 1 PARAHYDROGEN/CN
 => s deuterium/cn
 l2 1 DEUTERIUM/CN

(DO NOT REMOVE)
 SEARCH TRANSIENT
 09/990, 537

>> file caplus
COST IN U.S. DOLLARS

FULL ESTIMATED COST

9.28

SINCE FILE
ENTRY
SESSION
9.93

TOTAL
SESSION
9.93

FILE 'CAPLUS' ENTERED AT 08:21:36 ON 17 FEB 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY (ACS)

Copyright of the articles to which records in this database refer is held by the publishers listed in the PUBLISHER (PB) field (available for records published or updated in Chemical Abstracts after December 26, 1996), unless otherwise indicated in the original publications. The CA Lexicon is the copyrighted intellectual property of the American Chemical Society and is provided to assist you in searching databases on STN. Any dissemination, distribution, copying, or storing of this information, without the prior written consent of CAS, is strictly prohibited.

FILE COVERS 1007 - 17 FEB 2004 VOL 140 ISS 8
FILE LAST UPDATED: 16 Feb 2004 (20040216/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s 11 OR 12
202685 L1
52767 L2
321821 L1 OR L2

=> s 13 AND contrast

433450 CONTRAST
9381 CONTRASTS
(CONTRAST OR CONTRASTS)

L4
4600 L3 AND CONTRAST

=> s 13 AND droplet

24705 DROPLET
37077 DROPLETS
50406 DROPLET
(DROPLET OR DROPLETS)

L5
443 L3 AND DROPLET

=> s 15 AND hydrogen?

25724 HYDROGENA?
L6
24 L5 AND HYDROGENA?

=> d 1-24 ibib abs

L5 ANSWER 1 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER:
2003:08593 CAPLUS

DOCUMENT NUMBER:
139-216902

TITLE:
Apparatus for vaporization and condensation of organic hydride or aromatic hydrocarbon for hydrogen generation and storage device

INVENTOR(S):
Koikeeda, Akira; Sugai, Yasunori; Murayama, Hiroyuki;

PATENT ASSIGNEE(S):
Sakuramoto, Tadashi

SOURCE:
Jpn. Kokai Tokkyo Koho, 8 pp.

DOCUMENT TYPE:

Patent

LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO. ---- KIND DATE APPLICATION NO. DATE

JP 2003246502 A2 20030902 JP 2003-47218 20030222

PRIORITY APPN. INFO.: AB The title apparatus, for H generation by dehydrogenation of an organic hydride and

H storage by hydrogenation of an aromatic hydrocarbon, is equipped with a condensing part above a vaporizing part for liquefying a vaporized organic hydride or aromatic hydrocarbon on a cooling pipe of the condensing part

and then vaporizing the resulting droplets on the heated vaporizing part containing a catalyst for cyclic vaporization. The apparatus, especially suitable for fuel-cell system, provides high production yield of H or the organic hydride.

L6 ANSWER 2 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002-47008 CAPLUS
DOCUMENT NUMBER: 137-254564
TITLE: Anodic oxidation of chemically hydrogenated Si (100)
AUTHOR(S): Munoz, A. G.; Moehring, A.; Lohrenz, M. M.
CORPORATE SOURCE: Institut fur Physikalische Chemie und Elektrochemie, Heinrich Heine Universitat Dusseldorf, Dusseldorf, D-40225, Germany
SOURCE: Electrochimica Acta (2002), 47(17), 2751-2760
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The 1st oxidation stages of HF-etched Si surfaces were studied at potentials <10 V by using conventional electrochem. techniques. The use of the droplet cell allows defining areas of <10-3 cm² and a great number of measurements can be carried out in a relative short period of time. In this way, the 1st layer transformation may be studied before the surface becomes oxidized by the air humidity, assuring a better reproducibility. Potentiodynamic measurements of surface capacity give evidence of the formation of surface states generated by an adsorption processes at the beginning of oxidation. As a consequence of an increasing OH- coverage, the potential drop is gradually displaced from the semiconductor space charge layer to the Helmholtz layer with increasing pH. A model for the oxidation of the R-terminal bonds based on a charge transfer via the conduction band is proposed.

REFERENCE COUNT: 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 3 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2001-801290 CAPLUS
DOCUMENT NUMBER: 136-21925
TITLE: Hydrogenation properties of thixotropic AZ91MP/M60B magnesium alloys

AUTHOR(S): Hong, Tae-Man; Kim, Young-Jig
CORPORATE SOURCE: School of Metallurgical and Materials Engineering, Sungkyunkwan University, Suwon, 440-746, S. Korea

SOURCE: Metals and Materials International (2001), 7(4), 329-335

CODEN: MMIECY
Korean Institute of Metals and Materials

PUBLISHER: Journal
DOCUMENT TYPE: English

AB Thixotropic AZ91HP/AM60B Mg alloys were focused on only in the aspect of semiliq. forming until now. With the aim of improving H storage capacity, the microstructural evolutions and chemical properties of the thixotropic microstructure of AZ91HP/AM60B Mg alloys were observed by using a partial remelting process. According to the results of pressure-composition-isotherm measurements and image anal., globules (the Mg rich solid phase) were regarded as the H absorbing phases and eutectic/liquid droplets (the quenched liquid phase) were considered as the catalyster to improve hydrogenation kinetics. The hydrogenation properties depended especially on the properties of globules and liquid fractions. The thixotropic AZ91HP Mg alloys (4-h crushing under 2 MPa H atmospheric) treated at 863 and 861 K have a liquid fraction of apprx. 50-60% and H capacity of apprx. 4.5% at 623 K. However, most of thixotropic AM60B Mg alloys had good hydrogenation properties at >573 K.

REFERENCE COUNT: 10

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 4 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2001-758445 CAPLUS
DOCUMENT NUMBER: 16-55521
TITLE: Fixed-Bed Hydrogenation at Supercritical Conditions To Form Fatty Alcohols: The Dramatic Effects Caused by Phase Transitions in the Reactor

at

AUTHOR(S): Van den Hark, Sander; Haerrood, Magnus
CORPORATE SOURCE: Department of Food Science, Chalmers University of Technology, Goteborg, SE-402 29, Swed.
SOURCE: Industrial & Engineering Chemistry Research (2001), 40(23), 5052-5057
CODEN: ICREBD; ISSN: 0888-5885
PUBLISHER: American Chemical Society

PATENT NO.

KIND

DATE

APPLICATION NO.

DATE

WO 2000071166 A2 20001130 WO 2000-GB1897 20000517

WO 2000071166 A3 20010907

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, BE, ES, FI, FI, GB, GD, GE, GH, GR, HU, ID, IL, IS, IT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TI, TZ, UA, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU,

RW: GH, GM, KE, LS, MM, SD, SL, SZ, TZ, UC, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BE, RU, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

EP 1179189 A2 20020123 EP 2000-929722 20000517

R: AT, BE, CH, DE, DK, ES, FR, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO

JP 200300569 T2 20030107 JP 2000-619467 20000517

US 2002137965 A1 20020926 US 2001-990337 20011116

PRIORITY APPN. INFO.: GB 1999-11681 A 19990519

US 1999-139259 P 19990615

WO 2000-GB1897 W 20000517

AB Natural fatty alcs. are oleochems. produced by catalytic hydrogenation of fatty acid H esters. In com. multiphase process availability of the solid catalyst limits the reaction rate. Addition of supercrit. propane fluid to the reaction mixture led to a substantially homogeneous supercrit. phase whereby H has complete access to the solid catalyst. At high substrate concns., a rapid fall of the reaction rate was observed, and the benefits of supercrit. propane were completely lost. This reaction rate decrease is due to phase separation of the supercrit. reaction mixture into a substrate-rich and a hydrogen-rich phase. When the phase split occurred in systems with small catalyst particles ($\leq 32 \mu\text{m}$), the pressure drop over the catalyst bed increased sharply because the formed liquid droplets blocked the void space in the porous catalyst bed. These two phenomena were used to determine product and substrate solubility in the reaction mixture. The product was least soluble, and the insol.

increased with higher pressure. Under the process conditions (150 bar, 280°, and 11 mol % H), a single phase was observed up to 2 mol % H (i.e., 15%) product. In addition to min. pressure in the catalyst bed, substrate transport limitation is an important factor in process optimization. Therefore, egg-shell catalysts or fine catalyst particles (100-300 μm) should preferably be used in continuous supercrit.

REFERENCE COUNT: 25 **THESE ARE 25-CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT**

L6 ANSWER 5 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2000-842018 CAPLUS
TITLE: Process for the preparation of an MR contrast agent
INVENTOR(S): Axelsson, Oskar; Olsson, Charlotte; Morgenstjerne, Axel; Hansson, Georg; Johannesson, Haukur; Ardenkaer-Larsen, Jan Henrik

APPENDIXES

L6 ANSWER 6 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 133-19330 CAPLUS
DOCUMENT NUMBER: 133-19330
TITLE: Polymer formulations for gettering hydrogen
INVENTOR(S): Sheppard, Timothy J.; Even, William R., Jr.
USA
U.S.: 14 PP. Cont.-in-part of U.S. Ser. No. 182,405.
SOURCE: CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO. _____ KIND DATE _____ APPLICATION NO. DATE _____

US 6110397 A 20000829 US 1999-294631 19990419
US 6063307 A 20000516 US 1998-182405 19981029
PRIORITY APPLN. INFO.: US 1996-716752 A3 19960923

AB A novel method for preparing a hydrogenation composition comprising organic polymer molts having carbon-carbon double bonds, for removing hydrogen from the atmospheric within enclosed spaces and particularly from atmospheres within enclosed spaces that contain air, water vapor, oxygen, carbon dioxide or ammonia. The organic polymers molt, containing carbon-carbon double bonds throughout their structures, preferably polybutadiene, polysisoprene and derivs. thereof, intimately mixed with an insol. noble metal catalyst composition. High mol. weight polymers may be added to the organic polymer/catalyst mixture in order to improve their high temperature performance. The hydrogenation composition is prepared by dispersing the polymers in a suitable solvent, forming thereby a solution suspension, flash-freezing droplets of the solution in a liquid cryogen, freeze-drying the frozen droplets to remove frozen solvent incorporated in the droplets, and recovering the dried powder thus formed.

16 ANSWER 7 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2000-449887 CAPLUS
DOCUMENT NUMBER: 133-142361
TITLE: Spatially selective materials deposition by hydrogen-assisted laser-induced transfer
AUTHOR(S): Teet, D.; Smith, P. M.; Sigmon, T. W.; Thompson, Michael O.
CORPORATE SOURCE: L-395, Lawrence Livermore National Laboratory, Livermore, CA, 94550, USA
SOURCE: Applied Physics Letters (2000), 77(2), 307-309
PUBLISHER: American Institute of Physics
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Si and Al lines were deposited on glass substrates using a transfer technique based on the explosive release of hydrogen from a hydrogenated amorphous Si film melted by a laser pulse. The Si lines have a min. width of 4.5 μ m and are well defined, while the Al lines are wider and less uniform. Anal. of time-resolved IR transmission signals reveals that the lines do not break into droplets upon ejection, in contrast to the behavior of unpatterned films. This difference is attributed to the escape of hydrogen through the sides of the molten lines into the adjacent material.
REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

16 ANSWER 7 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2000-449887 CAPLUS
DOCUMENT NUMBER: 133-142361
TITLE: Spatially selective materials deposition by hydrogen-assisted laser-induced transfer
AUTHOR(S): Teet, D.; Smith, P. M.; Sigmon, T. W.; Thompson, Michael O.
CORPORATE SOURCE: L-395, Lawrence Livermore National Laboratory, Livermore, CA, 94550, USA
SOURCE: Applied Physics Letters (2000), 77(2), 307-309
PUBLISHER: American Institute of Physics
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Si and Al lines were deposited on glass substrates using a transfer technique based on the explosive release of hydrogen from a hydrogenated amorphous Si film melted by a laser pulse. The Si lines have a min. width of 4.5 μ m and are well defined, while the Al lines are wider and less uniform. Anal. of time-resolved IR transmission signals reveals that the lines do not break into droplets upon ejection, in contrast to the behavior of unpatterned films. This difference is attributed to the escape of hydrogen through the sides of the molten lines into the adjacent material.
REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

transparent substrate with an excimer laser pulse. The resulting release and accumulation of H₂ at the film/substrate interface propels the Si onto an adjacent receptor wafer. Time-resolved IR transmission measurements indicate that the amorphous film is melted by the laser pulse and breaks into droplets during ejection. These droplets travel towards the receptor substrate and coalesce upon arrival. The transfer velocity increases as a function of fluence, the rate of increase dropping noticeably around the full melt threshold of the film. At this fluence, the transfer velocity reaches values of \sim 1000 m/s for typical films. AFM reveals that films transferred below the full melt threshold only partially cover the receptor substrate, while uniform, wall-adhering films, which can be smoothed by subsequent laser irradiation, are obtained above it. Transfer of H-free Si films, on the other hand, does not occur until much higher fluences. The dynamics of the process were simulated using a semi-quant. numerical model. In this model, H₂ released from the melt front is instantaneously accumulated at the interface with an initial kinetic energy given by the melting temperature of Si and the enthalpy of solution.

The resulting pressure accelerates the Si film, the dynamics of which are modeled using Newtonian mechanics, and the gas cools adiabatically as its kinetic energy is converted to the film's momentum. The results of the calcs. are in good agreement with the exptl. data.

REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

16 ANSWER 9 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1999-531817 CAPLUS

DOCUMENT NUMBER: 131-30308

TITLE: Enhanced GaN decomposition at MOVPE pressures

AUTHOR(S): Koleske, D. D.; Wickenden, A. E.; Henry, R. L.; Twiss, M. E.; Culbertson, J. C.; Cormann, R. J.

CORPORATE SOURCE: Electronic Science and Technology Division, Naval Research Laboratory, Washington, DC, 20375, USA

SOURCE: MRS Internet Journal of Nitride Semiconductor Research [Electronic Publication] (1999), 4SI, No DP. Given

CODEN: MJNP7; ISSN: 1093-5783

URL: http://nsr.msnj.mrs.org/4SI/G3_70/article.pdf

PUBLISHER: Materials Research Society

JOURNAL: (online computer file)

LANGUAGE: English

AB Ga decomposition was studied above 800 °C in flowing H₂ and N₂ for pressures ranging from 10 to 700 torr. From careful weighings of the GaN film on sapphire before and after annealing, the rates for GaN decomposition, Ga surface accumulation, and Ga desorption were obtained. An enhancement 100 torr. in the GaN decomposition rate was observed in H₂ pressures greater than 100 torr.

Even with this enhanced GaN decomposition, the Ga desorption rate is nearly constant at higher pressures. As a result, Ga droplets accumulate on the surface. For N₂ pressure ranging from 76 to 400 torr no net enhancement in the GaN decomposition rate is observed and the GaN decompositon rate is reduced compared to identical annealing conditions in H₂. This suggests that H₂ is acting chemical to reduce the barrier for GaN decomposition. This may occur through a surface mediated dissociation of H₂ followed by the formation of more mobile and volatile hydrogenated N and Ga species. The significance of this study for GaN growth is that by increasing the GaN decomposition, the Ga atoms diffuse farther and subsequently re-incorporate into the growing lattice, increasing the GaN crystal quality. Connections between the enhanced GaN decomposition rate and the coalescing of nucleation layer during the ramp to high temperature and the consequences for the high temperature growth are discussed.

REFERENCE COUNT: 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

16 ANSWER 8 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2000-179100 CAPLUS
DOCUMENT NUMBER: 132-258635
TITLE: Experimental and numerical investigations of a hydrogen-assisted laser-induced materials transfer procedure
AUTHOR(S): Teet, D.; Smith, P. M.; Thompson, M. O.
CORPORATE SOURCE: L-271, Lawrence Livermore National Laboratory, Livermore, CA, 94550, USA
SOURCE: Journal of Applied Physics (2000), 87(7), 3537-3546
CODEN: JAPAD; ISSN: 0021-8979
PUBLISHER: American Institute of Physics
DOCUMENT TYPE: Journal
LANGUAGE: English
AB We present investigations of the mechanisms of a laser-induced transfer technique, which can be used for the spatially selective deposition of materials such as Si. This transfer is effected by irradiating the backside of a hydrogenated amorphous Si film, deposited on a

L6 ANSWER 10 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1999-228140
 DOCUMENT NUMBER: 130:345517
 TITLE: Laser-assisted transfer of silicon by explosive hydrogen release

AUTHOR(S): Toet, D.; Thompson, Michael O.; Smith, P. M.; Sigmon, T. W.

CORPORATE SOURCE: 1-271, Lawrence Livermore National Laboratory, 7000 East Avenue, Livermore, CA, 94550, USA
 Applied Physics Letters (1999), 74(15), 2170-2172
 CODEN: APPLAB; ISSN: 0003-6951
 American Institute of Physics
 Journal

LANGUAGE: English

AB A technique is presented for the transfer of silicon thin films. This transfer is effected by irradiating a hydrogenated amorphous silicon film deposited on a quartz substrate with an excimer laser pulse. The resulting release and accumulation of hydrogen at the film/substrate interface generates pressures sufficient to propel the silicon onto an adjacent glass receptor wafer. Transient optical transmission measurements indicate that the amorphous film is melted by the laser pulse and breaks into droplets during ejection. For fluences above 400 mJ/cm², the transferred films adhere well to the receptors and can be smoothed using a second laser irradiation.

REFERENCE COUNT: 10 THREE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 11 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1998-578998
 DOCUMENT NUMBER: 129:2179912
 TITLE: Micro-Raman study of reactive pulsed laser ablation deposited silicon carbon alloy films

AUTHOR(S): Trusso, Sebastiano; Vasi, Cirino; Barrea, Francesco; Neri, Fortunato

CORPORATE SOURCE: Istituto di Tecniche Spettroscopiche, CNR, Salita Sperone 31, Messina, I-98166, Italy
 Journal of Vacuum Science & Technology, A: Vacuum, Surfaces, and Films (1998), 16(5), 3020-3024
 CODEN: JVABD; ISSN: 0734-2101
 American Institute of Physics
 Journal

LANGUAGE: English

AB Si_{1-x}C_xH alloy thin films were deposited by pulsed laser ablation of a crystalline silicon target in a reactive environment. The microstructure of the films was studied by means of SEM images and spatially resolved Raman spectroscopy. The films were found to consist of mixed microcryst. and amorphous phases, with a silicon crystallite size of 5-6 nm. Incorporation of carbon and hydrogen was found to occur mainly in the amorphous phase. Results showed that films growth is given by deposition of atomic and mol. sized material reacting with ionized species. Some inhomogeneities observed in the SEM images were attributed to rapid cooling of liquid droplets ejected from the target.

REFERENCE COUNT: 35 THREE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 12 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1996-700049
 DOCUMENT NUMBER: 126:122948
 TITLE: Segregation of In atoms at clean and hydrogen passivated InP(100) surfaces

AUTHOR(S): Stietz, F.; Allinger, Th.; Polyakov, V.; Roll, J.; Goldmann, A.; Esfurth, W.; Lapeyre, G. J.; Schaefer, J. A.

CORPORATE SOURCE: Fachbereich Physik, Universitaet Kassel, Kassel, D-34132, Germany

SOURCE: Applied Surface Science (1996), 104/105(Proceedings of the Fifth International Conference on the Formation of Semiconductor Interfaces, 1995), 169-175
 DOCUMENT TYPE: Conference Paper
 PUBLISHER: Elsevier
 LANGUAGE: English

AB The InP(100) surfaces cleaned by ion bombardment and annealing (IBA) are known to be In-rich. Exposure to atomic hydrogen gives rise to an even higher In surface content. The nature of these In atoms at the clean and at the passivated surface was characterized by the techniques of UV and XPS (UPS, XPS) as well as LEED, SEM, energy dispersive X-ray Spectroscopy (EDX), and high-resolution electron energy-loss spectroscopy (REELS). The heavily hydrogenated surface is dominated by metallic droplets of In. Line shape anal. can sep. the contributions from these droplets and the nonmetallic area in between, giving new insight into band bending at this surface. It is argued that the clean surface consists of In atoms bound in dimers. REELS-spectra exhibit an interface plasmon at 93 mev, from which the carrier concentration can be directly determined via dielec. theory. Passivation of InP with atomic hydrogen shifts the plasmon energy to lower values. Finally, hydrogenation makes it possible to create particles from nanometer- to micrometer -size.

L6 ANSWER 13 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995-952391
 DOCUMENT NUMBER: 124:64180
 TITLE: MeC:CH-coatings produced by arc-ion plating process
 AUTHOR(S): Repeining, D.
 CORPORATE SOURCE: O.M.T., Oberflachen und Materialtechnologie GmbH, Luebeck, 23569, Germany
 Vide, Science, Technique et Applications (1995), 51(276), 197-209
 CODEN: VSTARH; ISSN: 1266-0167
 PUBLISHER: Societe Francaise du Vide
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB A wide range parameter set for the production of MeC:CH (metal carbide:CH) coatings was investigated. Some fundamental aspects to correlate film properties to large scale production conditions are presented. The MeC:CH films were prepared by simultaneous metal-arc evaporation and by plasma decomposition of C₂H₂. The metal carbide:CH systems examined were Cr₂C₃:CH, NbC:CH, TiC:CH, (Ti,W,C:CH) (Ti 80, W 20 atomic%) and (Ti,Nb,C:CH) (Ti 80, Nb 20 atomic%). The metal coatings examined, especially the hard chromium-carbon layer, were deposited as layers with constant phys. and chemical properties even on complex shaped substrates. The best friction/wear characteristics are found with the chromium and titanium-tungsten films. In General the arc metal-carbon layers had similar friction and wear behavior as the hard carbon coating deposited by other deposition techniques. The coatings with the best reliability are obtained with a chemical composition near the carbide phase. An evident disadvantage of the arc layers results if they are deposited with a high amount of droplets as found in the Ti:C:CH and (Ti,Nb,C:CH) layers.

L6 ANSWER 14 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995-512627
 DOCUMENT NUMBER: 123-9419
 TITLE: Core-level photoemission study of hydrogenated GaAs(100) surfaces

AUTHOR(S): Stietz, F.; Slaboshinain, S.; Engelhard, H.; Allinger, Th.; Goldmann, A.

CORPORATE SOURCE:

Fachbereich Physik, Univ. Kassel, Kassel, D-34132, Germany

SOURCE: Solid State Communications (1995), 94(8), 643-7

PUBLISHER: SCOMA4; ISSN: 0038-1098

DOCUMENT TYPE:

Journal

LANGUAGE:

English

AB The interaction of atomic hydrogen with GaAs(100) surfaces has been studied at room temperature by means of photoelectron spectroscopy using synchrotron radiation. Atomic hydrogen produces drastic changes in the line shape of the As^{3d} and Ga^d core levels and changes in the As/Ga intensity ratio. A least-squares fit routine for line shape anal enables the identification of different contributions. They show the breaking of Ga-dimers in the low exposure region (<102 L) and the formation of Ga- and As-hydrides between 102 L and 104 L. In addition the build up of metallic Ga^d-droplets after higher exposures is shown. The intensity ratio of As^{3d} to Ga^d indicates an As-enrichment due to Ga-hydride desorption and Ga-droplet formation.

L6 ANSWER 15 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1994-143970 CAPLUS

DOCUMENT NUMBER: 120:143970

TITLE: Role of the solvent-diffusion-rate modifier in a new emulsion solvent diffusion method for preparation of ketoprofen microspheres

AUTHOR(S): Kawashima, Y.; Iwamoto, T.; Niwa, T.; Takeuchi, H.; Hino, T.

CORPORATE SOURCE:

Pharm. Eng. Dep., Gifu Pharm. Univ., Gifu, 502, Japan

SOURCE: Journal of Microencapsulation (1993), 10(3), 329-40

DOCUMENT TYPE: Journal

LANGUAGE:

English

AB A new emulsion solvent diffusion method to prepare the microspheres of ketoprofen with an acrylic polymer was developed by utilizing sugar esters as solvent diffusion modifiers. The microspheres were produced via transient oil⁺ emulsion droplets of the polymer, which was formed by the interaction of drug and water-miscible organic solvent, e.g. ethanol. The solvent consisting in oil droplets diffused into the outer aqueous medium. In the droplets, ethanol interacted with ketoprofen via hydrogen bonding between -OH group of ethanol and both -COOH and =CO groups of ketoprofen. These hydrogen bonds made ethanol solution strongly hydrophobic. The sugar ester added in the ethanol could inhibit such internal oil⁺ interaction between ethanol and the =CO group of ketoprofen. Modulation in the binding force of ketoprofen-ethanol by the sugar ester contributed to achieving a desirable initial ethanol diffusion rate from the oil droplets for the formation of ketoprofen microspheres with high yield (>95%) and drug entrapment ratio (>90%).

L6 ANSWER 17 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1992-53414 CAPLUS

DOCUMENT NUMBER: 11713414

TITLE: Open-circuit voltage enhancement in MIS solar cells by thin plasma-grown tunneling oxides

AUTHOR(S): Meier, J.; Kragler, G.; Wilke, G.; Bucher, B.; Keppner, H.; Fischer, D.; Viret, V.; Shah, A. V.

CORPORATE SOURCE:

Fak. Phys., Univ. Konstanz, Konstanz, D-7750, Germany

SOURCE: E. C. PhotoVoltaic Sol. Energy Conf., Proc. Int. Conf., 10th (1991), 192-5. Editor(s): Lude, Antonio. Kluwer, Dordrecht, Neth.

DOCUMENT TYPE: Conference

LANGUAGE:

English

AB A microwave water vapor and O plasma were used to oxidize hydrogenated amorphous Si(a-Si:H) at low temps. The grown oxides were analyzed by Auger electron spectroscopy (AES), ellipsometry, and by determination of the wetting angle with a water droplet. A typical thickness of 16 Å was obtained from AES SiO₂/Si peak ratios as compared with 11 Å obtained by ellipsometric studies. As expected, the plasma oxide reduces the MIS forward and reverse dark current and leads to an increase in open-circuit voltage (Voc) and short-circuit current. The photocurrent enhancement is due to an increased blue response of the cell. The most pronounced effect of the plasma grown oxide was observed on devices with lightly P-doped 1-layers. As demonstrated earlier Pt/SiO_x/Ti-N a-Si:H MIS solar cells with open-circuit voltages >900 mV and air-mass 1.5 efficiencies of 5% have been obtained. The Voc of cells stored 3 yr remained nearly constant

L6 ANSWER 18 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1989-622784 CAPLUS

DOCUMENT NUMBER: 111222784

TITLE: Hydrogen passivation of acceptors in p-indium phosphide

AUTHOR(S): Daureman-Smith, W. C.; Lopata, J.; Pearson, S. J.; Koski, D. A.; Stavola, M.; Swaminathan, V.

CORPORATE SOURCE:

AT and T Bell Lab., Murray Hill, NJ, 07914, USA

SOURCE: Journal of Applied Physics (1989), 66(5), 1993-6

DOCUMENT TYPE:

English

AB The problem of hydrogenation of InP without surface degradation has been surmounted by exposure of the InP surface to a hydrogen plasma through a thin SiNx(H) cap layer. This layer is H permeable at the hydrogenation temperature of 250°C but P or PH₃ impermeable, thus minimizing PH₃ loss and the attendant In droplet formation. In

mol.-beam epitaxially grown As-rich GaAs(100)-c(4+4) and ion-bombarded and annealed InP(100) 4+2 were studied with high-resolution ERFS. The plasmon energy at the interface of depletion layer and bulk enabled one to determine the carrier concentration for Si-doped GaAs samples.

With increasing H exposure characteristic changes in plasmon energy, its intensity and the intensity of the surface optical phonons were observed. This is explained by changes in the space charge regime. Using H as a local probe provides sensitivity to the stoichiometry and to the chemical bonding situation at the uppermost surface layer. The As-terminated GaAs(100) surface can be converted finally into a Ga-terminated surface by etching with atomic H. For InP, for the very 1st time an interface plasmon was observed at 90 meV, due to high S doping. In contrast to GaAs, sequential hydrogenation gave metallic droplets (In). Models of the atomic surface structures with increasing H exposure. Consequently, the phonon and plasmon intensities are reduced drastically. Models of the atomic surface structures for different stages of hydrogenation are discussed.

contrast to the results for this type of plasma exposure of GaAs, shallow acceptors in InP are heavily passivated, whereas shallow donors are only very weakly affected. For example, p+-InP(Zn) of $3 + 10^{18}$ cm⁻³ has its residual hole concentration reduced to $\leq 3 + 10^{14}$ cm⁻³ over a depth of 1.3 μm by a 250°C, 0.5 h deactivation. The presence of acceptors impedes H (or D) indiffusion, as indicated by D diffusion under the same conditions occurring to depths of 18 and 35 μm in p-InP (Zn, 2 $+ 10^{16}$ cm⁻³) and n-InP (S or Sn), resp. Annealing for 1 min at 350°C causes the acceptor passivation to be lost and the hole concentration to be returned to its prehydrogenation level, indicating that the passivation has similar thermal stability to that of acceptors in GaAs, but lower than that of donors.

L6 ANSWER 19 OF 24 CAPLUS COPYRIGHT 2004 ACS ON STN
ACCESSION NUMBER: 1989;218019 CAPLUS
DOCUMENT NUMBER: 110:218019
TITLE: Manufacture of high-softening point pitch and mesophase pitch for the production of high-performance carbon fibers

INVENTOR(S): Kiyotaka, Okada, Shuji; Nakajima, Ryoichi; Naito, Sakae
PATENT ASSIGNEE(S): Maruzen Petrochemical Co., Ltd., Japan

SOURCE: Eur. Pat. Appl., 45 pp.

DOCUMENT TYPE: Patent

LANGUAGE: English

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 295222	A1	19890118	EP 1988-105645	19880615
EP 295222	Bl	19920408		
R: DE, FR, GB, IT, NL	A2	19881226	JP 1987-152064	19870618
JP 63317589	A2	19881226	JP 1987-152064	19870618
JP 04008513	B4	19920107	JP 1987-287173	19871113
JP 01129092	A2	19890522		
JP 0400844	B4	19920317		
CA 1302934	A1	19920809	CA 1988-568335	19880608
AU 8317709	A1	19881222	AU 1988-17709	19880615
AU 603223	B2	19901108		
EP 333724	A1	19901024	EP 1990-109689	19880616
EP 333724	Bl	19930512		
R: DE, FR, GB, IT, NL	A	19890308	CN 1988-103678	19880618
CN 1031156	B	19930512		
US 50591072	A	19920225	US 1990-504723	19900403
AU 90610958	A1	19901115	AU 1990-60258	19900810
AU 634985	B2	19900225	US 1990-616836	19901121
US 5182011	A	19930226	CN 1992-112544	19921031
CN 10332922	A	19961002		
PRIORITY APPLN. INFO.:	B		JP 1987-152064	A 19870613
			JP 1987-287173	A 19871113
			US 1988-103678	A 19880602
			US 1990-504723	A 19900403

AB The manufacture of the high-softening point pitch comprises dispersing a heavy oil or pitch in a stream of inert gas or superheated vapor as fine oil droplets, and contacting the droplets with the gas or vapor at 350-500° under reduced or standard pressure. The manufacture of the mesophase pitch comprise (A) using, as a raw material, a heavy oil or coal- or petroleum-based pitch substantially free of material insol. in a monocyclic aromatic hydrocarbon solvent (MAHS), and (B) subjecting the raw

material to a continuous 4-stage treatment comprising (a) a 1st stage, in which the material is heated in a tubular heater under increased pressure at 400-600° to produce 3-30 weight% xylene-insols. (XI) without producing quinoline insol. (QI), (b) a 2nd stage, in which the heat-treated material is distilled or flashed at <350° (converted to standard pressure) to remove a portion of light fractions and to obtain a thermally cracked heavy component (TCHC), (c) a 3rd stage, in which 1-5 times by weight of MAHS or other solvent (having the same dissolving capabilities as the MAHS) is added, and separating and collecting an insol. component to obtain a high-mol. weight bituminous material (HMMB), and (d) a 4th stage, in which the solvent is removed from the mother liquor, obtained from the mixture of the solvent and the TCHC by removing the insol. component therein, to obtain a component soluble in the MAHS, while recycling all or part of the soluble component of stages 4 to stage 1. The HMMB of step 3 is hydrogenated by heat treatment with a H-donating solvent, and the solvent is removed to obtain an optically isotropic hydrogenated pitch, which is heat-treated to obtain the mesophase pitch. This process is especially suitable for the manufacture of a spinning pitch for the manufacture of C fibers. Under described process conditions, coal tar was refined to give a heavy component having sp. gr. 1.181, viscosity at 100° 28.3 CST, XI 1.9, and QI <0.1, and initial b.p. 220°, 10 volume% 304°, and 50 volume% 439. This heavy component was processed to give an anisotropic, mesophase pitch having Mettler softening point 302°, XI 94.8 and QI 3.6 weight%, was spun to modulus of elasticity 16.4 ton/mm².

L6 ANSWER 20 OF 24 CAPLUS COPYRIGHT 2004 ACS ON STN
ACCESSION NUMBER: 1988;6450524 CAPLUS
DOCUMENT NUMBER: 109:240524
TITLE: Study on hydrophobic amorphous fluorinated, hydrogenated carbon overcoat layer for amorphous hydrogenated silicon photoreceptor

AUTHOR(S): Ishikawa, Fumiiori; Tanahashi, K.; Chigasaki, M.; Onuma, S.; Wakagi, M.; Ohno, T.; Shimamura, Y.; Yamagishi, C.
CORPORATE SOURCE: Hitachi Res. Lab., Hitachi Ltd., Hitachi, Japan
SOURCE: Materials Research Society Symposium Proceedings (1988), 118 (Amorphous Silicon Technol.), 429-34
CODEN: MRSDPH; ISSN: 0272-9172
DOCUMENT TYPE: Journal
LANGUAGE: English

AB An amorphous C:H:F overcoat layer was investigated to counter the problem of blurring caused by image degradation in a-Si:H photoreceptors during repetitions of electrophotoc. processes. The film was deposited by glow discharge decomposition of C2F6-H2 mixture. The hydrophobic property of the film was estimated by contact angle of water droplets. The contact angle of a-C:H:F was larger than that of a-Si:H, especially after 5 h corona exposure treatment. In the printing test, the blurring life-time of a-C:H:F overcoated a-Si:H photoreceptor was apprx. 9 times longer than that of a-SiC:H overcoated one.

L6 ANSWER 21 OF 24 CAPLUS COPYRIGHT 2004 ACS ON STN
ACCESSION NUMBER: 1988;530601 CAPLUS
DOCUMENT NUMBER: 109:130601
TITLE: Process and catalysts for the selective hydrogenation of alkyne impurities in butadiene-rich C4 fractions

INVENTOR(S): Debras, Guy L. G.; De Clippeleir, Georges E. M. J.; Cahen, Raymond M.; Grootjans, Jacques F.
PATENT ASSIGNEE(S): Laborfin S. A., Belg.
SOURCE: Ger. Offen., 11 pp.

DOCUMENT TYPE: Patent
LANGUAGE: German
CODEN: GWXXXB

Patent
German
1
1988-113002 CAPLUS
108-113002 Improvement of waste gas treatment in the manufacture
of cyclohexanone
1988-113002 CAPLUS
108-113002 Improvement of waste gas treatment in the manufacture
of cyclohexanone

PATENT NO. **DR 3744086** KIND **A1** DATE **19880114** APPLICATION NO. **DE 1987 3744086** DATE **19871224**
 CORPORATE SOURCE: **Protasov, S. K.; Gor'ko, E. M.; Shumakov, M. I.**
 USSR **Khimicheskaya Promyshlennost (Moscow, Russian**

— — — — —
GB 21,936,888 K1 1980/13 GB 1986-31017 19861230
GB 21,936,888 K1 1980/13 GB 1986-31017 19861230
Coden: KIRRMW; ISSN: 0023-110X

manufacture from C6H₆ was reduced to 0.2 mol% and 75% I in this gas was recovered by passing it through a straight flow centrifugal scrubber having sieve

PI 8705774 A 19880701 PI 1987-5774 19871230
 PI 87453 B 19920330
 PI 87453 C 19930111 plates, filled with an absorbing cyclohexanol-cyclohexanone mixture. Both suspended droplets of I and I-vapor were removed from the waste gas at gas throughput rate 60-1400 m³/h with absorbing mixture containing

SO. 0003 Kgb/kg. The entire process comprised a T-1 cyclohexanone -> caprolactam manufacturing sequence.

AB Alkyne impurities are removed from 1,3-butadiene-rich C₄ fractions, useful in rubber manufacture, by passing droplets of the fraction over a bed of calcium hydride.

du-containing catalyst-rich in the presence of H₂, removing the excess H₂ and isolating the butadiene product. A fraction containing 44.63 parts butadiene, 49.89 parts butene, 3.92 parts butane, 776 ppm vinylacetylene

AUTHOR(S): Kiwi, J.; Graetzel, M.
CORPORATE SOURCE: Inst. Chim. Phys., Ec. Polytech. Fed., Lausanne,
 Switz.

L6 ANSWER 22 OF 24 CAPLUS COPYRIGHT 2004 ACS on STW
ACCESSION NUMBER: 1988-502250 CAPLUS SOURCE: Journal of Physical Chemistry (1980), 84(12), 1503-7
DOCUMENT TYPE: CODEN: JPCHAX; ISSN: 0022-3654

DOCUMENT NUMBER: 109-102750
TITLE: Preparation of ductile niobium-aluminum powders for the fabrication of niobium-aluminum (Nb₃Al)
LANGUAGE: English
ABSTRACT: A chlorophyll-containing microemulsion was prepared based on 80% H₂O and 20% oil (cetyl alcohol and

AUTHOR(S): Schulze, K.; Mueller, G.; Petzow, G.
CONTRIBUTOR(S): Not Available
PAPER NUMBER: Not Available
TOPIC: superconductors
ABSTRACT: Na hexadecyl sulfate, hexadecane, 1-pentanol, and chlorophyll a (I). The droplet radius was determined by autocorrelated Rayleigh scattering to measure hexadecyl and

LUST, MECH-SULLIVAN, MAX-PRINZ-LUST, METALLURGISCHE FED. REP. GER. *Journal of the Less-Common Metals* (1981), 1391.
SOURCE:

Stuttgart, D-7000-BWSS, Max-Prinz-Lust, Metallurgen, spectrum of I was measured. It peaks around 465 nm and shows min. due to ground-state bleaching at 430 and 420 nm. I triplet reduces de 130 A. By using a pulsed ruby laser (λ 694 nm) the triplet

DOCUMENT TYPE: Journal
YR-106
CODEN: JCOMAH; **ISSN:** 0022-5088
methylviologen (III) with a specific rate constant of $4 \times 10^8 \text{ M}^{-1}\text{s}^{-1}$. At $5 \times 10^{-3} \text{ M}$ II the efficiency of this process is unity. The cation radical I⁺ reacts with both ascorbate and NADH. In the latter case

I can sensitize irreversible electron transfer from NADH to II. If this system is coupled with a suitable hydrogenation catalyst, H evolution from H₂O can be observed.

Starting ingots were prepared by conventional arc melting of compacted powder mixes. The phase diagram for Ni-Al of Jordal et al. (1980) was confirmed in the examined concentration range in form shown in Fig. 1.

Specimens were quenched with cooling rates not less than 104 K s^{-1} , both from the solid and liquid states, \rightarrow paralytic and (ultra) spray and nitrogenated droplets.

solid and liquid state. A noticeable extension of the no solid solution up to 77 atomic% Al was obtained after quenching small droplets from temps. \approx 2200°. Rapid quenching of solids (19-24 atomic% Al)

L7 257224 HYDROGEN? (SPRAY OR SPRAYS)
 0 PARAHYDROGEN AND [DROPLETS OR SPRAY] AND HYDROGENA?

Hydriding-dehydriding process. The retransformation of the metastable powders was determined to occur at 710 to 860° depending on the Al concentration. Based on these findings, a new perspective results for the metallurgical fabrication of Nb₃Al superconductors.

powder
metallurgical fabrication of Nb₃Al superconductors.

=> s parahydrogen and hydrogena?
789 PARAHYDROGEN

T.R.
257224 HYDROGENA?
71 PARAHYDROGEN AND HYDROGENA?

=> s 18 and into

2349001 INFO

6 INTOS

(INTO OR INTOS)

L9

7 LB AND INTO

=> d 1-7 ibib abs

'ABS', IS NOT A VALID FORMAT FOR FILE 'CAPLUS'

The following are valid formats:

ABS ----- GI and AB

All ----- BIB, AB, IND, RE

APPS ----- AI, PRAI

BIB ----- AN, plus Bibliographic Data and PI table (default)

CAN ----- List of CA abstract numbers without answer numbers

CBIB ----- AN, plus Compressed Bibliographic data

DALL ----- All, delimited (end of each field identified)

DMAX ----- MAX, delimited for post-processing

FAM ----- AN, PR and PRAI in table, plus Patent Family data

FBIB ----- AN, BIB, plus Patent FAM

IND ----- Indexing data

IPC ----- International Patent Classifications

MAX ----- All, plus Patent FAM, RE

PATS ----- PI, SO

SAM ----- CC, SX, TI, ST, IT

SCAN ----- CC, SX, TI, ST, IT (random display, no answer numbers;

SCAN must be entered on the same line as the DISPLAY,

e.g., D SCAN or DISPLAY SCAN)

STD ----- STD, BIB, IPC, and NCL

IBRS ----- ABS, indented with text labels

IAIL ----- All, indented with text labels

IBIB ----- BIB, indented with text labels

IMAX ----- MAX, indented with text labels

ISID ----- STD, indented with text labels

OBIB ----- AN, plus Bibliographic Data (original)

OBIB ----- OBIB, indented with text labels

SBIB ----- BIB, no citations

SIRB ----- BIB, no citations

HIT ----- Fields containing hit terms

HITIND ----- IC, ICA, ICI, NCL, CC and index field (ST and RT)

containing hit terms

HITRN ----- HIT RN and IBS text modification, its CA index name, and

HITSTR ----- HIT RN, its text modification, its CA index name, and

HITSEQ ----- HIT RN, its text modification diagram, its CA index name, its

structure diagram, plus NTE and SEQ fields

FHITSTR ----- First HIT RN, its text modification, its CA index name, and

its structure diagram

FHITSQ ----- First HIT RN, its text modification, its CA index name, its

structure diagram, plus NTE and SEQ fields

KWIC ----- Hit term plus 20 words on either side

OCC ----- Number of occurrence of hit term and field in which it occurs

To display a particular field or fields, enter the display field

codes. For a list of the display field codes, enter HELP DFIELDS at

an arrow prompt (>). Examples of formats include: TI; TI,AU; BIB,ST; TI,IND; TI,SO. You may specify the format fields in any order and the information will be displayed in the same order as the format specification.

All of the formats (except for SAM, SCAN, HIT, HITIND, HITRN, HITSTR, FHITSTR, HITSEQ, FHITSQ, KWIC, and OCC) may be used with DISPLAY ACC to view a specified Accession Number.
ENTER DISPLAY FORMAT (BIB):end

=> d 1-7 ibib abs

L9 ANSWER 1 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2003.822290 CAPLUS

TITLE: Hyperpolarization transfer from parahydrogen to deuterium via carbon-13

AUTHOR(S): Canet, Daniel; Dipartimento di Chimica I.F.M. and Molecular Imaging Centre, Universita degli Studi di Torino, Turin, Italy

CORPORATE SOURCE: Journal of Chemical Physics (2003), 119(17), 8850-8856

SOURCE: COPEN: JCPA6; ISSN: 0021-9656

PUBLISHER: American Institute of Physics

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Hyperpolarization arising from para-hydrogen (p-H₂) can be transferred via carbon-13 to deuterium after hydrogenation of a perdeuterated substrate. The model compound is acetylene-d₂, hydrogenated to yield ethylene-d₂. Transfer to deuterium occurs in ALTADEA expts. (the NMR spectrometer prior to the insertion of the sample tube into the NMR probe). The proposed theory, limited to the case where the two p-H₂ protons remain isochronous (same chemical shift), is based on the concept of a steady-state d₂ operator which prevails subsequently to the hydrogenation reaction. The outcome quantity is the magnetization of the carbon-deuterium longitudinal spin order, denoted as ICZD. Calcs. simply involve commutators of all relevant spin quantities with the J-coupling Hamiltonian (denoted as H_J). In particular, the necessary condition for polarization transfer toward deuterium via carbon-13 is that ICZD does not commute with H_J. The structure of H_J is thus of prime importance and it appears that transfer to carbon-13 occurs for both types of expts.. ALTADEA and PASADEA (hydrogenation reaction in the presence of the NMR spectrometer magnetic field). Conversely, transfer toward deuterium via carbon-13 is possible only with ALTADEA expts.

REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 2 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2003.14557 CAPLUS

TITLE: The torroid cavity autoclave for high-pressure and variable-temperature in situ nuclear magnetic resonance studies

AUTHOR(S): Nieessen, Heiko G.; Trautner, Peter; Wiemann, Sabine; Bargen, Joachim; Woerk, Klaus

CORPORATE SOURCE: Institute of Physical and Theoretical Chemistry, University of Bonn, Bonn, D-53115, Germany

SOURCE: Review of Scientific Instruments (2002), 73(3, Pt. 1), 1259-1266

CODEN: RSINAK; ISSN: 0034-6748

PUBLISHER: American Institute of Physics

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The torroid cavity autoclave (TCA) is a coaxial NMR resonator and high-pressure autoclave for in situ NMR studies, which combines the advantages of a torroid NMR detector with the features of a cylindrical metal pressure vessel. It is designed to fit within the limited space of

a standard NMR narrow-bore cryomagnet and allows for recording high resolution NMR spectra during chemical reactions under high pressure. Compds. that, for example, initiate a reaction can be injected into the reactor. Through a nonreturn valve even if the TGA is already pressurized. The TGA is heated by a resistive, coaxial heating arrangement that does not generate any stray magnetic field in the sample volume. Current pressure and temperature capabilities are 0-300 bar and room temperature to 150°, resp. With standard 200 MHz ^1H NMR exps., signal resolution of 0.55 Hz and signal-to-noise ratios comparable to those of standard NMR probes were achieved. In a further development, the TGA is optimized for gas/liquid reactions in which gaseous components are vigorously mixed with the liquid to obtain maximum reaction rates. Applications to **parahydrogen** induced polarization are shown, in which the nuclear spin polarization patterns show pairwise addition of hydrogen in both liquid organic solvents and in supercrit. CO_2 .

REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 3 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2000-37455 CAPLUS
DOCUMENT NUMBER: 133-134947

TITLE: Mechanistic aspects of dihydrogen activation and transfer during asymmetric hydrogenation in supercritical carbon dioxide

AUTHOR(S): Lange, Susanne; Brinkmann, Axel; Trautner, Peter; Wölk, Klaus; Bargen, Joachim; Leitner, Walter;

CORPORATE SOURCE: Max-Planck-Institut für Kohlenforschung, Mülheim/Ruhr, D-45470, Germany

SOURCE: Chirality (2000), 12(5/6), 450-457

CODEN: CHIRLE; ISSN: 0899-0042

PUBLISHER: Wiley-Liss, Inc.

LANGUAGE: English

AB A new "CO₂-philic" chiral rhodium diphosphinite complex was synthesized and applied as catalyst precursor in the asym. hydrogenation of di-Me itaconate in scCO₂, scC₂H₆ and various liquid organic solvents. Deuterium labeling studies and parahydrogen-induced polarization (PHIP) NMR exps. were used to provide the first detailed mechanistic insight into the activation and transfer of the dihydrogen mol. during hydrogenation in scCO₂. Chemical interactions between CO₂ and reactive intermediates of the catalytic pathway could be excluded as possible explanations for the exptl. verified difference in the catalytic behavior in scCO₂ and hexane.

REFERENCE COUNT: 43 THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 4 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 126-131144 CAPLUS
DOCUMENT NUMBER: 1396-713469

TITLE: Proof of a reversible, pairwise hydrogen transfer during the homogeneous rhodium(I)-catalyzed hydrogenation of α,β -unsaturated carboxylic acid derivatives with *in situ* NMR spectroscopy and parahydrogen

AUTHOR(S): Hartmann, Andreas; Seike, Rüdiger; Bargen, Joachim; Institut für Theoretische und Physikalische Chemie, Universität Wegelerstrasse, Bonn, D-53115, Germany

SOURCE: Angewandte Chemie, International Edition in English (1996), 35(21), 2505-2507

CODEN: ACTEAY; ISSN: 0570-0833

PUBLISHER: VCH

DOCUMENT TYPE: Journal

LANGUAGE: English

L9 ANSWER 5 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996-293686 CAPLUS
DOCUMENT NUMBER: 125-57703

TITLE: Heteronuclear polarization transfer using selective pulses during hydrogenation with Parahydrogen

AUTHOR(S): Barkemeyer, Jens; Bargen, Joachim; Sengstschmid, Helmut; Freeman, Ray

CORPORATE SOURCE: Institute Physical Chemistry, University Bonn, Bonn, D-53115, Germany

SOURCE: Journal of Magnetic Resonance, Series A (1996), 120(1), 129-132

CODEN: JMRAB2; ISSN: 1064-1858

PUBLISHER: Academic

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Selective excitation of polarization (SEPP) technique is used for efficient polarization transfer to other nuclei by first transforming the TAZX magnetization of the parahydrogen-induced polarization (PHIP) polarized protons into in phase magnetization, followed by an INEPT or DEPT pulse sequence. These techniques were applied to the homogeneous hydrogenation of phenylacetylene (I) or 1-hexyne (II). The ^{13}C NMR of I or II was obtained at 400 MHz by introduction of H₂ (parahydrogen enriched by previously passing over charcoal) into a spinning sample tube of CDCl₃ solution containing Rh(norbornadiene)(PPh₃) catalyst. The use of this *in situ* technique for the examination of catalytic hydrogenations was discussed.

L9 ANSWER 6 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1976-35798 CAPLUS
DOCUMENT NUMBER: 84-35798

TITLE: Surface reactivity of nickel and nickel hydride films as catalysts in parahydrogen conversion

AUTHOR(S): Frackiewicz, A.; Polski, M.; Palczewska, W.

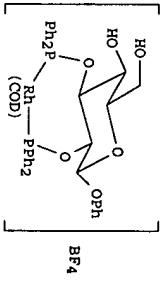
CORPORATE SOURCE: Inst. Phys. Chem. Pol. Acad. Sci. Warsaw, Pol.

SOURCE: Journal of Catalysis (1975), 40(2), 184-9

CODEN: JCATAS; ISSN: 0021-9517

DOCUMENT TYPE: Journal

LANGUAGE: English



and in

supercrit. CO_2 .

REFERENCE COUNT: 27

THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ACCESSION NUMBER: 2000-37455 CAPLUS

DOCUMENT NUMBER: 133-134947

TITLE: Mechanistic aspects of dihydrogen activation and transfer during asymmetric hydrogenation in supercritical carbon dioxide

AUTHOR(S): Lange, Susanne; Brinkmann, Axel; Trautner, Peter; Wölk, Klaus; Bargen, Joachim; Leitner, Walter;

CORPORATE SOURCE: Max-Planck-Institut für Kohlenforschung, Mülheim/Ruhr, D-45470, Germany

SOURCE: Chirality (2000), 12(5/6), 450-457

CODEN: CHIRLE; ISSN: 0899-0042

PUBLISHER: Wiley-Liss, Inc.

LANGUAGE: English

AB A new "CO₂-philic" chiral rhodium diphosphinite complex was synthesized and applied as catalyst precursor in the asym. hydrogenation of di-Me itaconate in scCO₂, scC₂H₆ and various liquid organic solvents. Deuterium labeling studies and parahydrogen-induced polarization (PHIP) NMR exps. were used to provide the first detailed mechanistic insight into the activation and transfer of the dihydrogen mol. during hydrogenation in scCO₂. Chemical interactions between CO₂ and reactive intermediates of the catalytic pathway could be excluded as possible explanations for the exptl. verified difference in the catalytic behavior in scCO₂ and hexane.

REFERENCE COUNT: 43 THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ACCESSION NUMBER: 126-131144 CAPLUS

DOCUMENT NUMBER: 1396-713469

TITLE: Proof of a reversible, pairwise hydrogen transfer during the homogeneous rhodium(I)-catalyzed hydrogenation of α,β -unsaturated carboxylic acid derivatives with *in situ* NMR spectroscopy and parahydrogen

AUTHOR(S): Hartmann, Andreas; Seike, Rüdiger; Bargen, Joachim; Institut für Theoretische und Physikalische Chemie, Universität Wegelerstrasse, Bonn, D-53115, Germany

SOURCE: Angewandte Chemie, International Edition in English (1996), 35(21), 2505-2507

CODEN: ACTEAY; ISSN: 0570-0833

PUBLISHER: VCH

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Selective excitation of polarization (SEPP) technique is used for efficient polarization transfer to other nuclei by first transforming the TAZX magnetization of the parahydrogen-induced polarization (PHIP) polarized protons into in phase magnetization, followed by an INEPT or DEPT pulse sequence. These techniques were applied to the homogeneous hydrogenation of phenylacetylene (I) or 1-hexyne (II). The ^{13}C NMR of I or II was obtained at 400 MHz by introduction of H₂ (parahydrogen enriched by previously passing over charcoal) into a spinning sample tube of CDCl₃ solution containing Rh(norbornadiene)(PPh₃) catalyst. The use of this *in situ* technique for the examination of catalytic hydrogenations was discussed.

REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ACCESSION NUMBER: 1996-293686 CAPLUS

DOCUMENT NUMBER: 125-57703

TITLE: Heteronuclear polarization transfer using selective pulses during hydrogenation with Parahydrogen

AUTHOR(S): Barkemeyer, Jens; Bargen, Joachim; Sengstschmid, Helmut; Freeman, Ray

CORPORATE SOURCE: Institute Physical Chemistry, University Bonn, Bonn, D-53115, Germany

SOURCE: Journal of Magnetic Resonance, Series A (1996), 120(1), 129-132

CODEN: JMRAB2; ISSN: 1064-1858

PUBLISHER: Academic

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Selective excitation of polarization (SEPP) technique is used for efficient polarization transfer to other nuclei by first transforming the TAZX magnetization of the parahydrogen-induced polarization (PHIP) polarized protons into in phase magnetization, followed by an INEPT or DEPT pulse sequence. These techniques were applied to the homogeneous hydrogenation of phenylacetylene (I) or 1-hexyne (II). The ^{13}C NMR of I or II was obtained at 400 MHz by introduction of H₂ (parahydrogen enriched by previously passing over charcoal) into a spinning sample tube of CDCl₃ solution containing Rh(norbornadiene)(PPh₃) catalyst. The use of this *in situ* technique for the examination of catalytic hydrogenations was discussed.

REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ACCESSION NUMBER: 1976-35798 CAPLUS

DOCUMENT NUMBER: 84-35798

TITLE: Surface reactivity of nickel and nickel hydride films as catalysts in parahydrogen conversion

AUTHOR(S): Frackiewicz, A.; Polski, M.; Palczewska, W.

CORPORATE SOURCE: Inst. Phys. Chem. Pol. Acad. Sci. Warsaw, Pol.

SOURCE: Journal of Catalysis (1975), 40(2), 184-9

CODEN: JCATAS; ISSN: 0021-9517

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Selective excitation of polarization (SEPP) technique is used for efficient polarization transfer to other nuclei by first transforming the TAZX magnetization of the parahydrogen-induced polarization (PHIP) polarized protons into in phase magnetization, followed by an INEPT or DEPT pulse sequence. These techniques were applied to the homogeneous hydrogenation of phenylacetylene (I) or 1-hexyne (II). The ^{13}C NMR of I or II was obtained at 400 MHz by introduction of H₂ (parahydrogen enriched by previously passing over charcoal) into a spinning sample tube of CDCl₃ solution containing Rh(norbornadiene)(PPh₃) catalyst. The use of this *in situ* technique for the examination of catalytic hydrogenations was discussed.

REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ACCESSION NUMBER: 1976-35798 CAPLUS

DOCUMENT NUMBER: 84-35798

TITLE: Surface reactivity of nickel and nickel hydride films as catalysts in parahydrogen conversion

AUTHOR(S): Frackiewicz, A.; Polski, M.; Palczewska, W.

CORPORATE SOURCE: Inst. Phys. Chem. Pol. Acad. Sci. Warsaw, Pol.

SOURCE: Journal of Catalysis (1975), 40(2), 184-9

CODEN: JCATAS; ISSN: 0021-9517

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Selective excitation of polarization (SEPP) technique is used for efficient polarization transfer to other nuclei by first transforming the TAZX magnetization of the parahydrogen-induced polarization (PHIP) polarized protons into in phase magnetization, followed by an INEPT or DEPT pulse sequence. These techniques were applied to the homogeneous hydrogenation of phenylacetylene (I) or 1-hexyne (II). The ^{13}C NMR of I or II was obtained at 400 MHz by introduction of H₂ (parahydrogen enriched by previously passing over charcoal) into a spinning sample tube of CDCl₃ solution containing Rh(norbornadiene)(PPh₃) catalyst. The use of this *in situ* technique for the examination of catalytic hydrogenations was discussed.

REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ACCESSION NUMBER: 1976-35798 CAPLUS

DOCUMENT NUMBER: 84-35798

TITLE: Surface reactivity of nickel and nickel hydride films as catalysts in parahydrogen conversion

AUTHOR(S): Frackiewicz, A.; Polski, M.; Palczewska, W.

CORPORATE SOURCE: Inst. Phys. Chem. Pol. Acad. Sci. Warsaw, Pol.

SOURCE: Journal of Catalysis (1975), 40(2), 184-9

CODEN: JCATAS; ISSN: 0021-9517

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Selective excitation of polarization (SEPP) technique is used for efficient polarization transfer to other nuclei by first transforming the TAZX magnetization of the parahydrogen-induced polarization (PHIP) polarized protons into in phase magnetization, followed by an INEPT or DEPT pulse sequence. These techniques were applied to the homogeneous hydrogenation of phenylacetylene (I) or 1-hexyne (II). The ^{13}C NMR of I or II was obtained at 400 MHz by introduction of H₂ (parahydrogen enriched by previously passing over charcoal) into a spinning sample tube of CDCl₃ solution containing Rh(norbornadiene)(PPh₃) catalyst. The use of this *in situ* technique for the examination of catalytic hydrogenations was discussed.

REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ACCESSION NUMBER: 1976-35798 CAPLUS

DOCUMENT NUMBER: 84-35798

TITLE: Surface reactivity of nickel and nickel hydride films as catalysts in parahydrogen conversion

AUTHOR(S): Frackiewicz, A.; Polski, M.; Palczewska, W.

CORPORATE SOURCE: Inst. Phys. Chem. Pol. Acad. Sci. Warsaw, Pol.

SOURCE: Journal of Catalysis (1975), 40(2), 184-9

CODEN: JCATAS; ISSN: 0021-9517

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Selective excitation of polarization (SEPP) technique is used for efficient polarization transfer to other nuclei by first transforming the TAZX magnetization of the parahydrogen-induced polarization (PHIP) polarized protons into in phase magnetization, followed by an INEPT or DEPT pulse sequence. These techniques were applied to the homogeneous hydrogenation of phenylacetylene (I) or 1-hexyne (II). The ^{13}C NMR of I or II was obtained at 400 MHz by introduction of H₂ (parahydrogen enriched by previously passing over charcoal) into a spinning sample tube of CDCl₃ solution containing Rh(norbornadiene)(PPh₃) catalyst. The use of this *in situ* technique for the examination of catalytic hydrogenations was discussed.

REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ACCESSION NUMBER: 1976-35798 CAPLUS

DOCUMENT NUMBER: 84-35798

TITLE: Surface reactivity of nickel and nickel hydride films as catalysts in parahydrogen conversion

AUTHOR(S): Frackiewicz, A.; Polski, M.; Palczewska, W.

CORPORATE SOURCE: Inst. Phys. Chem. Pol. Acad. Sci. Warsaw, Pol.

SOURCE: Journal of Catalysis (1975), 40(2), 184-9

CODEN: JCATAS; ISSN: 0021-9517

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Selective excitation of polarization (SEPP) technique is used for efficient polarization transfer to other nuclei by first transforming the TAZX magnetization of the parahydrogen-induced polarization (PHIP) polarized protons into in phase magnetization, followed by an INEPT or DEPT pulse sequence. These techniques were applied to the homogeneous hydrogenation of phenylacetylene (I) or 1-hexyne (II). The ^{13}C NMR of I or II was obtained at 400 MHz by introduction of H₂ (parahydrogen enriched by previously passing over charcoal) into a spinning sample tube of CDCl₃ solution containing Rh(norbornadiene)(PPh₃) catalyst. The use of this *in situ* technique for the examination of catalytic hydrogenations was discussed.

REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ACCESSION NUMBER: 1976-35798 CAPLUS

DOCUMENT NUMBER: 84-35798

TITLE: Surface reactivity of nickel and nickel hydride films as catalysts in parahydrogen conversion

AUTHOR(S): Frackiewicz, A.; Polski, M.; Palczewska, W.

CORPORATE SOURCE: Inst. Phys. Chem. Pol. Acad. Sci. Warsaw, Pol.

SOURCE: Journal of Catalysis (1975), 40(2), 184-9

CODEN: JCATAS; ISSN: 0021-9517

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Selective excitation of polarization (SEPP) technique is used for efficient polarization transfer to other nuclei by first transforming the TAZX magnetization of the parahydrogen-induced polarization (PHIP) polarized protons into in phase magnetization, followed by an INEPT or DEPT pulse sequence. These techniques were applied to the homogeneous hydrogenation of phenylacetylene (I) or 1-hexyne (II). The ^{13}C NMR of I or II was obtained at 400 MHz by introduction of H₂ (parahydrogen enriched by previously passing over charcoal) into a spinning sample tube of CDCl₃ solution containing Rh(norbornadiene)(PPh₃) catalyst. The use of this *in situ* technique for the examination of catalytic hydrogenations was discussed.

REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ACCESSION NUMBER: 1976-35798 CAPLUS

DOCUMENT NUMBER: 84-35798

TITLE: Surface reactivity of nickel and nickel hydride films as catalysts in parahydrogen conversion

AUTHOR(S): Frackiewicz, A.; Polski, M.; Palczewska, W.

CORPORATE SOURCE: Inst. Phys. Chem. Pol. Acad. Sci. Warsaw, Pol.

SOURCE: Journal of Catalysis (1975), 40(2), 184-9

CODEN: JCATAS; ISSN: 0021-9517

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Selective excitation of polarization (SEPP) technique is used for efficient polarization transfer to other nuclei by first transforming the TAZX magnetization of the parahydrogen-induced polarization (PHIP) polarized protons into in phase magnetization, followed by an INEPT or DEPT pulse sequence. These techniques were applied to the homogeneous hydrogenation of phenylacetylene (I) or 1-hexyne (II). The ^{13}C NMR of I or II was obtained at 400 MHz by introduction of H₂ (parahydrogen enriched by previously passing over charcoal) into a spinning sample tube of CDCl₃ solution containing Rh(norbornadiene)(PPh₃) catalyst. The use of this *in situ* technique for the examination of catalytic hydrogenations was discussed.

REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ACCESSION NUMBER: 1976-35798 CAPLUS

DOCUMENT NUMBER: 84-35798

TITLE: Surface reactivity of nickel and nickel hydride films as catalysts in parahydrogen conversion

AUTHOR(S): Frackiewicz, A.; Polski, M.; Palczewska, W.

CORPORATE SOURCE: Inst. Phys. Chem. Pol. Acad. Sci. Warsaw, Pol.

SOURCE: Journal of Catalysis (1975), 40(2), 184-9

CODEN: JCATAS; ISSN: 0021-9517

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Selective excitation of polarization (SEPP) technique is used for efficient polarization transfer to other nuclei by first transforming the TAZX magnetization of the parahydrogen-induced polarization (PHIP) polarized protons into in phase magnetization, followed by an INEPT or DEPT pulse sequence. These techniques were applied to the homogeneous hydrogenation of phenylacetylene (I) or 1-hexyne (II). The ^{13}C NMR of I or II was obtained at 400 MHz by introduction of H₂ (parahydrogen enriched by previously passing over charcoal) into a spinning sample tube of CDCl₃ solution containing Rh(norbornadiene)(PPh₃) catalyst. The use of this *in situ* technique for the examination of catalytic hydrogenations was discussed.

REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ACCESSION NUMBER: 1976-35798 CAPLUS

DOCUMENT NUMBER: 84-35798

TITLE: Surface reactivity of nickel and nickel hydride films as catalysts in parahydrogen conversion

AUTHOR(S): Frackiewicz, A.; Polski, M.; Palczewska, W.

CORPORATE SOURCE: Inst. Phys. Chem. Pol. Acad. Sci. Warsaw, Pol.

SOURCE: Journal of Catalysis (1975), 40(2), 184-9

CODEN: JCATAS; ISSN: 0021-9517

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Selective excitation of polarization (SEPP) technique is used for efficient polarization transfer to other nuclei by first transforming the TAZX magnetization of the parahydrogen-induced polarization (PHIP) polarized protons into in phase magnetization, followed by an INEPT or DEPT pulse sequence. These techniques were applied to the homogeneous hydrogenation of phenylacetylene (I) or 1-hexyne (II). The ^{13}C NMR of I or II was obtained at 400 MHz by introduction of H₂ (parahydrogen enriched by previously passing over charcoal) into a spinning sample tube of CDCl₃ solution containing Rh(norbornadiene)(PPh₃) catalyst. The use of this *in situ* technique for the examination of catalytic hydrogenations was discussed.

REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ACCESSION NUMBER: 1976-35798 CAPLUS

DOCUMENT NUMBER: 84-35798

TITLE: Surface reactivity of nickel and nickel hydride films as catalysts in parahydrogen conversion

AUTHOR(S): Frackiewicz, A.; Polski, M.; Palczewska, W.

CORPORATE SOURCE: Inst. Phys. Chem. Pol. Acad. Sci. Warsaw, Pol.

AB

The kinetics of the p-H₂ conversion were studied on Ni and Ni hydride thin films as catalysts. The rate of conversion was measured by a conventional method at 1-30 torr and 165-195°K. The transformation of Ni into the hydride phase under the influence of atomic H was attested by observing the change of elec. resistance of the film. The transformation diminished 300-fold the rate of the para-ortho conversion, due to a decrease in the preexponential factor of the Arrhenius equation. The results are in keeping with the poisoning effect of "hydride" H in Ni or Pd hydrides already reported in hydrogenation reactions. The effect is discussed in terms of the surface heterogeneity of the hydrided Ni film. Nickel crystalline patches which are not transformed into hydride are suggested to be responsible for the residual activity. The Ni hydrid areas are catalytically inactive, which can be explained on the basis of earlier proposals that the metal d-band is filled by 1s electrons from H atoms.

L9 ANSWER 7 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1963:49600 CAPLUS

DOCUMENT NUMBER: 58:49600

ORIGINAL REFERENCE NO.: 58:8441e:9

TITLE: Microcatalytic studies of the hydrogenation

of ethylene. I. The promoting effect of adsorbed hydrogen on the catalytic activity of metal surfaces

Hall, W. Keith; Hassell, J. A. Journal of Physical Chemistry (1963), 67, 636-43

COPEN: JPCBAX; ISSN: 0022-3654

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

AB
 The enhanced activity of Cu-Ni alloy catalysts, brought about by pretreatment with H, results from alteration of a surface property; it is not a bulk effect as previously supposed. The activity difference is maintained at sub-zero reaction temps., even in a flowing stream of H. The metals of the first transition series, were surveyed: Fe, Co, and Ni are poisoned by activated H chemisorption, while Cu and Cu-Ni alloys are promoted. Small amounts of O left within the catalysts following reduction do not alter their activities substantially. When H was substituted for He as carrying gas, the ortho-para-hydrogen conversion could be measured concomitantly and was affected by pretreatment in the same way as the ethylene hydrogenation. The rates of these two reactions were generally correlative, but it was also observed that the ortho-para conversion was catalyzed rather than poisoned, by the carbonaceous residue left from the hydrogenation. Similar behavior was observed for the H₂-D₂ exchange. The activity variations result from alteration of the ability of the catalyst to activate H. Studies of the interaction of C₂H₄ with the surfaces did not show a correlation with pretreatment, as C₂H₆ was produced only on H-treated surfaces, regardless of the catalyst composition. These results, nevertheless, provide some insight into the situation on the surface during hydrogenation.

=> logoff

ALL L# QUERIES AND ANSWER SETS ARE DELETED AT LOGOFF

	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	107.89	117.82
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA. SUBSCRIBER PRICE	-21.48	-21.48